REMARKS

Claims 1-16, 41-50, and 66-85 are pending in the application. The Applicants' attorney has amended claims 1, 6-9, 14, 41, 43-44, 48, 66-68, 71-76, 78-80, 82, and 84-85. As discussed below, the claims are in condition for allowance. **But if after considering this response the Examiner does not agree that all of the claims are allowable, he is respectfully requested to schedule and conduct a telephone interview with the Applicants' attorney before issuing a subsequent Office Action. The Applicants' attorney left a voice mail for the Examiner on 12 February 2009 to schedule an interview.**

Objections To The Specification

The Applicants' attorney has amended the title as suggested by the examiner.

Claim Objections

The Applicants' attorney has amended claims 6, 8, 74, 75, 78, and 79 to overcome this rejection; therefore, the Applicants' attorney requests the examiner to withdraw these objections.

Rejection Of Claims 1-5, 7, 9-10, 12, 15-16, 41-45, 49-50, 69-72, 76-79, and 83-85 Under 35 U.S.C. § 103(a) As Being Unpatentable Over U.S. 2003/014627 To Krishna In View Of U.S. 6,028,939A to Yin

Claim 1

Claim 1 as amended recites a hardwired-pipeline circuit operable to perform the following functions without executing a program instruction: receiving a message, extracting data from the message, loading the extracted data into a memory, retrieving the extracted data from the memory, processing the retrieved data with a pipeline, and providing the processed data to an external source.

For example, referring, *e.g.*, to FIGS. 4-5 and paragraphs [51], [57], and [97] – [100] of the patent application, in an embodiment, a pipeline circuit 80 (FIG. 4) has an input-data handler 120 (FIG. 5) operable, without executing a programming instruction, to receive via a pipeline bus 50 (see also FIG. 3) a message that includes data and that includes a header having information indicating a destination pipeline 74 for the data by receiving the data and information on at least one common line of the pipeline bus 50, to extract the data from the message, and to load the extracted data into a memory 92. An interface 140 is operable, without executing a program instruction, to retrieve the extracted data from the memory 92, and the destination pipeline 74 is operable, without executing a program instruction, to process the retrieved data. An output-data handler 126 (FIG. 5) is operable, without executing a program instruction, to provide the processed data to an external source.

In contrast, the combination of Krishna and Yin does not render obvious a hardwired-pipeline circuit operable, without executing a program instruction, to receive a message, to extract data from the message, to load the extracted data into the memory, to retrieve the extracted data from the memory, to process the retrieved data with a pipeline, and to provide the processed data to an external source.

As admitted by the examiner in section 7 of the office action, Krishna does not disclose or suggest a circuit operable to perform any of the aforementioned functions without executing a program instruction. That is, to the extent Krishna discusses any of the aforementioned functions, Krishna discloses performing these discussed functions with a program-instruction-executing processor (*e.g.*, the CPUs of FIGS. 1A – 2).

Furthermore, Yin does not disclose a hardwired-pipeline circuit operable to receive a message, or operable to perform the aforementioned functions without executing a program instruction. Yin makes no mention of communication via messages. And the operation of Yin's programmable hardware element (PHE) (FIGS. 6-9) is described as being so controlled by, and otherwise so intermeshed with the operation of, Yin's microprocessor (FIGS. 6-9), that as best as the Applicants' attorney can determine, Yin does not disclose performing any of the aforementioned functions without executing a program instruction with the microprocessor (*e.g.*, the last sentence of the Abstract; col. 3,

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lines 6-8 and 13-15; col. 7, lines 23-29; col. 9, lines 31-36 and 45; col. 10, lines 32-35; col. 11, lines 45-47 and 52-53; and col. 13, lines 18-20).

Consequently, the combination of Krishna and Yin fails to render claim 1 as amended even prima facie obvious, at least because neither reference discloses performing any of the hardwired-pipeline-circuit functions recited in claim 1 without executing a program instruction.

Furthermore, one would not have been motivated to combine the teachings of Krishna and Yin to arrive at the subject matter recited in claim 1 because Krishna concerns processing messages sent and received over a network; and in contrast, Yin concerns processing data locally using synchronized address and data busses.

Claims 2-5

These claims are patentable by virtue of their respective dependencies from claim 1.

Claim 7

Claim 7 as amended recites a hardwired-pipeline circuit operable to perform the following functions without executing a program instruction: receiving data, processing the received data, loading the processed data into a memory, retrieving the processed data from the memory, generating a message header, generating a message that includes the processed data and the header, and providing the message to an external source.

Although the scopes of claims 1 and 7 may not be the same, claim 7 is patentable for reasons similar to those recited above in support of the patentability of claim 1.

Claim 9

Claim 9 as amended recites an input-data handler operable without executing a program instruction to receive a first message, to extract raw data from the message, and to load the raw data into a first memory; at least one hardwired pipeline operable without executing a program instruction to process data; a pipeline interface operable without

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executing a program instruction to retrieve the raw data from the first memory, to provide the retrieved raw data to a hardwired pipeline, and to load processed data from the hardwired pipeline into a second memory; and an output-data handler operable without executing a program instruction to retrieve the processed data from the second memory, to generate a second header, to generate a second message that includes the processed data and the second header, and to provide the second message to the external source.

Although the scope of claims 1 and 9 may not be the same, claim 9 is patentable for reasons similar to those recited above in support of the patentability of claim 1.

Claims 10, 12, and 15-16

These claims are patentable by virtue of their dependencies from claim 9 as amended.

Claims 41, 43-44, 71-72, 76, 78-79, and 84-85

Although the scopes of these claims may not be the same, and may be different from the scopes of claims 1, 7, and 9, these claims are patentable for reasons similar to those recited above in support of the patentability of claim 1.

Claims 10, 12, 15-16, 42, 45, 49-50, 69-70, 77, and 83

These claims are patentable by virtue of their dependencies on their respective independent claims.

Rejection Of Claims 6 And 8 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Krishna In View Of Yin, And Further In View Of U.S. 2003/0231649 To Awoseyi

Claim 6

Claim 6 as amended recites a hardwired-pipeline circuit operable to perform the following functions without executing a program instruction: receiving a message, extracting

data from the message, loading the extracted data into a memory, retrieving the extracted data from the memory, processing the retrieved data with a pipeline, and providing the processed data to a processor.

For reasons similar to those discussed above in support of the patentability of claim 1, neither Krishna nor Yin discloses a circuit operable to perform the aforementioned functions without executing a programming instruction, and, therefore, the combination of Krishna and Yin does not suggest such a circuit.

Likewise, Awoseyi does not disclose a circuit operable to perform the aforementioned functions without executing a programming instruction.

Consequently, because Awoseyi does not provide the teaching missing from Krishna and Yin, the combination of Krishna, Yin, and Awoseyi does not render claim 6 unpatentable.

Claim 8

Although the scopes of claims 6 and 8 may not be the same, claim 8 is patentable for reasons similar to those recited above in support of the patentability of claim 6.

Rejection Of Claims 11 And 46 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Krishna In View Of Yin, And Further In View Of U.S. 2002/0041685 To McLoone

These claims are patentable by virtue of their respective dependencies from claims 9 and 44.

Rejection Of Claims 13, 47, 68, 75, And 82 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Krishna In View Of Yin And Further In View Of U.S. 5,185,871 To Frey

Claim 13

This claim is patentable by virtue of its dependency from claim 9.

Claim 47

This claim is patentable by virtue of its dependency from claim 44.

Claim 68

Claim 68 as amended recites a hardwired-pipeline circuit operable to perform the following functions without executing a program instruction: receiving a message, extracting data from the message, loading the extracted data into a memory, retrieving the extracted data from the memory, processing the retrieved data with a pipeline, providing the processed data to an external source, extracting from the header information indicating the destination of the data, storing a pointer to the extracted data, and providing the retrieved data to the pipeline in response to the stored pointer.

For reasons similar to those discussed above in support of the patentability of claim 1, neither Krishna nor Yin discloses a circuit operable to perform the aforementioned functions without executing a programming instruction, and, therefore, the combination of Krishna and Yin does not suggest such a circuit.

Likewise, Frey does not disclose a circuit operable to perform the aforementioned functions without executing a programming instruction.

Consequently, because Frey does not provide the teaching missing from Krishna and Yin, the combination of Krishna, Yin, and Frey does not render claim 68 unpatentable.

Claims 75 And 82

Although the scopes of these claims may not be the same, and may be different from the scope of claim 68, these claims are patentable for reasons similar to those recited above in support of the patentability of claim 68.

Allowable Subject Matter

Claims 74 and 81 are allowed.

The Applicants' attorney has rewritten claims 14, 48, 66-67, 73, and 80 in independent form; consequently, these claims are now allowable.

CONCLUSION

In view of the foregoing, claims 1-16, 41-50, and 66-85 are in condition for allowance. Therefore, the issuance of a formal Notice of Allowance at an early date is respectfully requested.

Any additional fees required as a result of this amendment have been paid from the below-referenced deposit account as filed herewith. Should further payment be required to cover such fees you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

DATED this 13th day of February, 2009.

Respectfully submitted,

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